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ABSTRACT

A study sought to identify what the public thinks about the appropriate level of education and training for opticians. A 10% random sample of 1,510 New York State customers (n=151) of a large multinational opticianry corporation was surveyed. Two categories of data were social background (combined annual family income, age, marital status, race, gender) and a locally constructed five-item Guttman scale selected to differentiate attitude toward optical training. The scale consisted of future-oriented questions about the individuals' future eye care exposure to apprenticeship-trained opticians and present-oriented questions about current educational requirements within the optician profession. Statistical analyses included descriptive percentage data extracted for cross-tabulation, Pearson correlation, and linear regression models for prediction and causal explanations. Findings indicated customer attitude toward optician training was in favor of higher educational requirements and credentials for all social background indicators; confidence level in the eye care professional increased as the optician's educational achievement increased; 100 percent would be more confident in the optician's skills if he/she were college educated; and 81 percent believed an optician should have earned at least a baccalaureate degree. (YLB)

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Public Attitude Toward Optician Education as Human Capital

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Abstract

It was discovered that the public has a strong opinion that Opticians must have a college education. This is contrary to the current industry standards found in many states in America.

Overview and Context of the Research

Post-Modern Economy:

Evidence has been amassing which suggests that a quality education is critical for the sustained social and economic growth of nations and individuals (Benavot 1992, Brown et al. 1991, Cleland and Van-Ginneken 1988, Hadden and London 1996 and Sawyerr 1997).

Moreover, education has become highly important in occupational payment in post-modern America. A number of studies have shown that the number of years of education is a strong determinant of occupational achievement in America with social origins constant (Sewell, W.H. and Shah, V.P., 1977 in Power and Ideology in Education).

A common explanation of the importance of education in post-modern society may be termed the Technical /Functionalist Theory. This sociological concept holds that those skill requirements of jobs in post-modern society are constantly increase because of technological change. Two processors are involved: 1) the proportion of jobs requiring low skill jobs have decreases and 2) the proportion requiring higher order skills have increase. Hence, formal education is necessary because it provides either the training in specific skills or in general capacity for the more highly skilled economy. Therefore, a larger proportion of

the population is required to spend longer and longer periods of their lives in school.

Although it is obvious that people will gain useful skills and knowledge during the course of their formal education, it is not obvious that the skills and knowledge may be seen as a form of capital - that is human capital. Human Capital accounts for a substantial portion of the growth in Western Societies. Indeed, human capital has grown at a much faster rate than conventional capital.

The theory of human capital suggests that education in addition to being a form of consumption is also a form of individually and socially productive investment. From this perspective the individual can consider him/herself capitalists in that the individual make investments in the acquisition of knowledge and skill which has given them ownership of economically valuable capacities. Low earnings, reflect according to this theory, inadequate investments in education.

According to Schultz (1977), human capital theory further suggests that investment in education nationally facilitates economic growth in two ways: spurring technological innovation and increasing the productivity of labor. Throughout the last several decades human capital theory has served as a guideline and justification for rising educational expenditures both by government and individuals alike. Human Capital theory also

suggests that those who do not acquire the proper dose of schooling are likely to occupy the low positions of the socioeconomic hierarchy.

Lastly, studies recently carried out in the field of human capital show that there is quite a close connection between the diffusion of education and economic development. According to Schultz, Harbison and Myers studied 75 countries at different levels of economic development there was significant correlation between the national income per capita and a series of indices concerning the levels of education among the labor force.

Educational Transformation:

The Civil War is the great watershed in American educational history because the mass public educational movement has its roots in the society that evolved after the Civil War. In 1820 seven out of ten Americans were farmers. During the 1870's farmers comprise nearly half of the work force. Although there was formal educational system, must schools were tuition based college preparatory institutions. The apprentice program arose to train individuals in a specific skill outside the home. Today, the apprentice program is a vestige of the past. Indeed, since the Civil War, especially over the last 25 years, there has been rapid growth in salaried middle class, and most recently a rise in the technical class which requires formal

educational credentials.

However, in the 1990's within some career areas the apprentice program is alive and well. An example is the Optician profession. In New York State during the 1940's , as well as many other states in the Union, an individual who is a GED or high school graduate can enroll in an apprentice program for two years. This two year program will allow the individual to sit for the licence examination.

According to Manpower Comments (1996), growth in occupations such as engineering technology, computer specialists, law, health diagnosing and the health treating labor market are expected to grow at a 24% faster rate than the total employment market. Furthermore, employment of technicians and related support occupations are expected to grow by 32 % over the next decade.

Given this information, the Optician profession will grow at a faster rate than non-technical areas. However, with the rate of post-modern credential inflation, and the American conscience collective of human capital, will the current Optician training system in New York State which allows for a high school or GED graduate to enroll in a two year apprenticeship program, as opposed to a college education, be seen by the public as sufficient training for a health care professional. This may be so because Americans, and specifically New Yorkers, have a

strong belief in upward social mobility through education. As a result, in post-modern American society higher education has a virtual monopoly on entrance into the professional middle class.

Therefore, this study will asked the following questions: 1) Does the public think that the apprenticeship program is sufficient training for an Optician? 2) In the publics' opinion is a college educated Optician a better health care professional ? and 3) In the publics' opinion, what level of education should an Optician obtain ?

The sample used in this study was a 10 % random sample of 1510 New York State customer names (N=151) of a large multi-national Opticianry Corporation. Essilor of America funded this research through a grant.

Types of Data/ Research Procedure:

Types of Data: This study employs two categories of data in analyzing the main concepts advanced here. The categories of data are: (1) SOCIAL BACKGROUND including the combined annual family income organized into dichotomous categories; respondents' education; age; material status; race and gender. (2)An attitude scale locally constructed with no national norms. The scale consists of a five item Guttman scale selected to

differentiate attitude toward optical training. The five item scale is divided into two conceptual dimensions each composed of two logical subjects: (a) future- oriented, questions concerned with the individuals' future eye care exposure to apprenticeship trained Opticians and (b)present-oriented questions concerned with current educational requirements within the Optician profession.

The data were assessed from a questionnaire randomly administered to 151 corrective lens customers of a large eye care corporation. This random sample represents approximately 10% of the total customer population of this corporation found in New York State. The sample as it relates to social background variables such as race, income and age are homogeneous.

The statistical analysis consists of descriptive percentage data extracted for cross tabulation computer runs, Pearson correlation and linear regression models for prediction and causal explanations. Generally, only significant coefficients are discussed.

The data were collected via a telephone survey conducted by graduate students enrolled in the sociology doctoral program at the City University of New York Graduate School and University Center.

Results

Descriptive Data:

Gender:

When asked if the apprenticeship program was sufficient to be an optician, 65 % of the males and 74 % of the females indicated that the apprenticeship program was not sufficient training .

Eighty six percent of the males and 88% of the females suggested that all opticians should be college educated. Seventy one percent of the males and 91 % of the females suggested that opticians should have at least an Associates degree. Finally, 86% of the males and 94 % of the females suggested that a Bachelor's degree was necessary to be an Optician.

Eighty five percent of the males and 94 % of the females within this population all agreed that a college educated optician would be a better health care professional. Lastly, 93% of the males and 97 % of the females within this population all agreed that they would feel more confident in their Optician's skills if he/she was college educated.

Place Table I About Here

Educational Level:

When asked if the apprenticeship program was sufficient for Optician training 50 % of those with some high school education, 93 % of those who have graduated high school, 85 % of those who had some college, 92 % of those who have graduated college and 93 % of those with graduate degrees all indicated that the apprenticeship program was not sufficient training for an Optician.

One hundred percent of those with some high school education, 100 % of those who have graduated high school, 82 % of those with some college, 100 % of those who have graduated college and 92 % of those with graduate degrees all agreed that the Optician should be college educated.

One hundred percent of those with some high school education suggested that an optician should have at least an Associates degree and 96% indicated that a Bachelor's degree was necessary. Seventy one percent of those who have graduated high school indicated that an optician should have an Associates degree and 86 % indicated that a Bachelor's degree was appropriate. One hundred percent of those with some college education agreed that the Optician should have at least in Associates degree, and 69 % of those within this category indicated that a Bachelor's degree was appropriate. Seven six percent of the college graduates indicated that all Opticians

should have at least an Associates degree and 66% within this educational level suggested that an Optician should have a Bachelor's degree. Seventy five percent with graduate degrees agreed that Optician should have earned at least an Associates degree and 68% indicated that a Bachelor's degree was an appropriate educational level for the Optician.

Ninety percent of those with some high school, 92% of the high school graduates, 94% of those with some college, 96% of the college graduates and 98% of those with Graduate degrees suggested that a college educated Optician would make a better health care professional. Ninety one percent of those with some high school, 94% of the high school graduates, 95% of those with some college, 96% of the college graduates and 98% of those with Graduate degrees indicated that they would feel more confident in their Opticians' skills if she/he was college educated.

Place Table II About Here

Income:

Sixty five percent of those with a yearly income range of between $16,000 to 29,999, 100% of those with an income range of $ 24,000-29,999, 75 % of those with an income range of

$30,000 to 59,999 and 89% of those with an income range of $60,000 or higher indicated that the apprenticeship program was not sufficient training for an Optician.

One hundred percent of those within the annual income range of $16,000 to 23,999, 67% of those within the income range of $24,000 to 29,999, 90% of those with an income range of $30,000 to 59,999 and 97% of those with an income range of $60,000 or greater all agreed that an Optician should be college educated.

One hundred percent of those with a yearly income range of $16,000 to 23,999, 100% of those within the income range of $24,000 to 29,999, 100% of those with an income range of $30,000 to 59,999 and 94% of those earning $60,000 or greater indicated that an Optician should have at least an Associates degree.

One hundred percent of those with an annual income range of $16,000 to 23,999, 75% of those with an income range of $24,000 to 29,999, 73% of those with an income range of 30,000 to 59,999 and 92% of those within the $60,000 or greater all agree that an Optician should have a Baccalaureate degree.

One hundred percent of those with an annual income of $16,000 to 23,999, 50 % of those earning $24,000 to 29,999, 90% of those earning $30,000 to 59,999 and 94% of those earning $ 60,000 or greater indicated that a college educated Optician would make a better health care professional.

Finally, 100% of those polled, income notwithstanding, indicated that they would feel more confident in the Opticians' skills if she/he was college educated.

Place Table III About Here

Pearson Correlations:

These data suggested that as the respondents age increased, they were more likely to indicate that an college educated Optician would make a better health care professional.

These data also suggested that as the respondents income level increased, they were more likely to feel confident in a college educated Optician. These data further suggest that if the respondent was married, he/she indicated that a college education Optician was a better health care professional. Finally, these data suggest that if the respondent was female, she is more likely to agree that a college educated Optician is a better health care professional.

Place Table IV About Here

Linear Regression Analysis:

The regression data suggest that the greater the respondent income there is a 15% chance that he/she would indicate that all Opticians should be college educated.

Finally, as the respondent age increases , there is a 9% chance that she/he would indicate that all Opticians should be college educated.

Place Table V About Here

Conclusion:

These data suggest that the customer attitude toward Optician training is in favor of higher educational requirements and credentials. Over and over again this sample reaffirms their opinion that a college educated optician would make a better health care professional. Indeed, the confidence level in the eye care professional increases as the Opticians educational achievement increases. Furthermore, these data suggest that 100% of those polled, income notwithstanding, would be more confident in the Opticians' skills if he/she was college educated. Surprisingly, 81% of this sample were under the opinion that an

Optician should have earned at least a Baccalaureate degree over an Associates degree.

These data suggest that the Optician apprenticeship program, in the publics' opinion, is a relic of the past and is not appropriate for the post-modern health care professional.

Finally, according to the New York State Department of Education the pass rate of the apprentice trainees within the Optician licensure examination is poor. In 1996 only 47% as opposed to 75% of those with an Associates degree passed the examination, in 1997 69% of the trainees vs. 76% of those holding an Associates Degree who had passed and in 1998 51% of the trainees vs. 77% of the those who are college educated passed the New York State Licensure examination.

These data may be suggesting one or two following: 1)the apprenticeship program's training capacity is weak or 2) the students' who seek such a program have poor academic skills. In either case, the apprenticeship program is not as efficient in training Opticians as the college based curricula and should be redressed.

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Table I **Gender**

N=151

Question	Gender	Percentage
Apprenticeship is not Sufficient Training	Males	65%
	Females	74%
Opticians Should Be College Educated	Males	86%
	Females	88%
Opticians Should Have At Least An Associates Degree	Males	71%
	Females	91%
Opticians Should Have At Least a Bachelor's Degree	Males	86%
	Females	94%
College Educated Optician Would Make A Better Health Care Professional	Males	85%
	Females	94%
More Confident In Opticians' Skills If College educated	Males	93%
	Female	97%

Table II **Educational Level**

N=151

Question	Education	Percentage
Apprenticeship is not Sufficient Training	Some High School	50%
	High School Graduate	93%
	Some College	85%
	College Graduate	92%
	Graduate Degrees	93%
Opticians Should Be College Educated	Some High School	100%
	High School graduate	100%
	Some College	82%
	College Graduate	100%
	Graduate Degrees	92%
Opticians Should Have At Least An Associates Degree	Some High School	100%
	High School Graduate	71%
	Some College	100%
	College Graduate	76%
	Graduate Degree	75%

Table II Continued

Question	Education	Percentage
Opticians Should Have At Least a Bachelor's Degree	Some High School	96%
	High School Graduate	86%
	Some College	69%
	College Graduate	66%
	Graduate Degree	68%
College Educated Optician Would Make A Better Health Care Professional	Some High School	90%
	High School Graduate	92%
	Some College	94%
	College graduate	96%
	Graduate Degree	98%
More Confident In Opticians' Skills If College educated	Some High School	91%
	High School Graduate	94%
	Some College	95%
	College Graduate	96%
	Graduate Degree	98%

Table III

Income Level

N=151

Question	Yearly Income Range	Percentage
Apprenticeship is not Sufficient Training	$16,000-23,999	75%
	$24,000-29,999	100%
	$30,000-59,999	75%
	$60,000 or More	89%
Opticians Should Be College Educated	$16,000-23,999	100%
	$24,000-29,999	67%
	$30,000-59,999	90%
	$60,000 or More	97%
Opticians Should Have At Least An Associates Degree	$16,000-23,999	100%
	$24,000-29,999	100%
	$30,000-59,999	100%
	$60,000 or More	94%

Table III Continued

Question	Yearly Income Range	Percentage
Opticians Should Have	$16,000-23,999	100%
At Least a Bachelor's	$24,000-29,999	75%
Degree	$30,000-59,999	73%
	$60,000 or More	92%
College Educated Optician	$16,000-23,999	100%
Would Make A Better Health	$24,000-29,999	50%
Care Professional	$30,000-59,999	90%
	$60,000 or More	94%
More Confident In Opticians'	$16,000-23,999	100%
Skills If College educated	$24,000-29,999	100%
	$30,000-59,999	100%
	$60,000 or More	100%

Table IV	**Pearson Correlation**
N=151	**Age**
Apprenticeship Training	.332
All Opticians Should be College Educated	.238
Better Health Care Professional	**.034**
Feel More Confident	.225
	Income Level
Apprenticeship Training	.-036
All Opticians Should be College Educated	.150
Better Health Care Professional	.138
Feel More Confident	**.046**
	Married
Apprenticeship Training	-.107
All Opticians Should be College Educated	-.205
Better Health Care Professional	**.005**
Feel More Confident	-.281
	Gender
Apprenticeship Training	-.096
All Opticians Should be College Educated	-.084
Better Health Care Professional	**.026**
Feel More Confident	-.113

Table V **Regression Correlations**

N=151

All Opticians Should Be College Educated	**Yearly Income**	**Age**
b	.014	.116
beta	.178	.212

R-Square=.029

P <.05

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